Remarks:

Claims 30-36 remain for consideration in this application with claim 30 being in independent format. In the Action, claims 30-36 were rejected under 35 U.S.C. 112, first paragraph, for allegedly not enabling a method of altering the flux of water across a membrane with a variant peptide having at least 35% sequence homology with SEQ ID NO. 13. It was noted that the test of enablement is not whether experimentation is necessary, but whether, if experimentation is necessary, it is undue. Furthermore, the *Wands* factors were cited as providing guidance in a determination of what constitutes "undue experimentation." The Examiner is in agreement that claim 30 is enabled for SEQ ID No. 13. In response, applicant has added claim 41 which is directed at the peptide of SEQ ID No. 13. Furthermore, applicant asserts that the remaining claims are not overly broad or non-enabled and in support of that assertion, notes that SEQ ID No. 13 comprises the sequence KKKKPARVGLGITTVLTMTTRS and has an activity level of 24.0 $\mu A/cm^2$ at 500 μM. In comparison, SEQ ID No. 4 comprises the sequence KKKKARSGSSQTTMTLVTTIGLGVRAA and has an activity level of 18.7 $\mu A/cm^2$ at 300 μM. Notably, this peptide has a sequence homology less than that claimed with respect to SEQ ID No. 13 (it has less than 35% sequence homology with SEQ ID No. 13) but it is still an effective peptide. This is evidence of the breadth of sequences covered by the present invention. It is important to note that only sequences having the claimed homology to SEQ ID Nos 4-47 will be covered by the present invention. Additionally, applicants have amended the independent claim to peptides having between about 16-31 amino acid residues which will further limit the scope of these claims.

Claims 30-36 were also rejected under 35 U.S.C. 112, first paragraph, for allegedly containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention. Specifically, it was alleged that the application did not provide a representative number of species to describe the genus. To the contrary, the application discloses 52 variations of the M2GlyR sequence (SEQ ID NO. 1), including SEQ ID NO. 13. Each of these variants is therefore also related to SEQ ID NO. 13 in that it comprises sequence modules and variants of SEQ ID NO. 1 as do the other sequences. It can be seen that these sequences are highly divergent from each other and some share very little, if any, sequence homology. As for distinguishing attributes, for a peptide to be covered by the present claims, it must:

1) be capable of forming a channel assembly for transport of anions through an epithelial cell,

2) have from between 16-31 amino acid residues, and

3) have at least about 35% sequence homology with a peptide selected from the group consisting of SEQ ID Nos. 4-47.

These limitations, together with the specific teachings of some of the variations tested by the inventor (e.g. substituting an anlanine for the initial proline, reversing subsequences to produce palindromes, substituting a tryptophan for the central leucine) show the broad sequence variation possible using the teachings of the present invention. Such a conclusion is verified in the declaration of Dr. Forman. Accordingly, applicant respectfully asserts that this rejection has been overcome.

Finally, claims 30-36 were rejected under 35 U.S.C. 102(b) as being anticipated by WO 9726905 to Iwamoto et al. (Iwamoto). However, it appears that the peptide of SEQ ID NO. 1 and not SEQ ID NO. 13 was used to determine the homology. In light of this, a call was placed to the Examiner and it was agreed that, upon submission of a response to this Office Action, a new search would be undertaken for SEQ ID NO. 13 and a non-final action would be in order if patentability of the claims was still in question. If this understanding is incorrect, it is requested that the Examiner place a call to the undersigned at 1-800-445-3460.

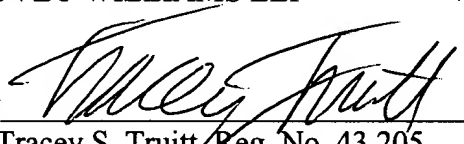
Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached page is captioned "Version with markings to show changes made."

Any additional fee which is due in connection with this amendment should be applied against our Deposit Account No. 19-0522.

In view of the foregoing, a Notice of Allowance appears to be in order and such is courteously solicited.

Respectfully submitted,

HOVEY WILLIAMS LLP

By 

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ATTORNEYS FOR APPLICANT(S)

"Version with Markings to Show Changes Made"

Claims:

30.(Amended) A method of altering the flux of water across an epithelial cell presenting first and second spaced apart surfaces, said method comprising the steps of:

a. providing a peptide capable of forming a channel assembly for transport of anions through said epithelial cell, [each of] said [peptides] peptide having from between 16-31 amino acid residues and having at least about 35% sequence homology with a peptide selected from the group consisting of SEQ ID Nos. 4-47; and

b. contacting said peptide with said first surface of said epithelial cell, and causing said peptide to alter the flux of water across said cell surface.